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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,329	10/16/2003	Lizhang Yang	59093US002	8504
32692	7590	03/30/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			LE, THANH TAM T	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	
			2839	

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/687,329	Applicant(s) YANG ET AL.	
	Examiner Thanh-Tam T. Le	Art Unit 2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/13/04 & 2/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-4 and 6-15 are objected to because of the following informalities:

Claim 1, lines 3 and 4, "the diameter" lacks an antecedent basis;

Claim 1, line 4, "the protective jacket at least" should be changed -- the protective jacket of at least --;

Claim 1, lines 5, 7 and 13, "the optical fibers" lacks an antecedent basis;

Claim 1, lines 8 and 9, "the fibers" lacks an antecedent basis;

Claim 1 is confusing, "each cable... comprising at least one optical fiber.....a transition zone in which the fibers are non-parallel". If the Examiner interprets that each cable comprising one optical fiber, how the only one fiber that can parallel or non-parallel by itself?

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 and 6-15, insofar as that can be understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunin et al. (5,923,803) in view of Kingstone et al. (5,838,860).

Bunin et al., figure 4, disclose an optical interconnect device comprising:

- a fiber optic cable (20) having two ends and comprising a plurality of optical fibers (22) each surrounded by a protective jacket where a diameter of the fiber optic cable is larger than a diameter of the each optical fiber and where the protective jacket of at least a first end of the each fiber optic cable has been removed thereby exposing the optical fiber;
- a ribbonized assembly (31) encasing a portion of the first end of the fiber optic cable and the optical fibers, wherein the fiber optic cable occupies an input zone, the fiber occupies an output zone where the each optical fiber in the output zone lie parallel to one another and has a first pitch; and

- a ferrule (50) attached to the ribbonized assembly, the ferrule having a plurality of internal grooves (54) having a second pitch; wherein the first pitch of the optical fiber is substantially equal to the second pitch of the ferrule.

Bunin et al. disclose the instant claimed invention as described above except for the cable and the fiber both occupy a transition zone in which the fibers are non-parallel and a plurality of fiber optic cables.

Kingstone et al., figure 7, disclose a fiber optic light source having a fiber optic cable (100) with a plurality of optical fibers (98) which having the cable and the fiber both occupy a transition zone in which the fibers are non-parallel, It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Bunin et al. to have the cable, as taught by Kingstone et al., in order to provide uniform sideways lighting over the length of the cable, (Kingstone et al., column 1, lines 33-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to separate Bunin et al's cable to have a plurality of fiber optic cables, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179, in order to reduce cost and easy assembly.

Regarding claim 2, the optical fibers in the ribbonized assembly are nearly touching one another.

Regarding claim 3, the ribbonized assembly is of a geometry that will not violate the minimum bend radius of the optical fiber.

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Regarding claim 4, the fiber optic cable is a tight buffer fiber cable.

Regarding claims 6 and 7, the ribbonized assembly comprising an ultraviolet light curable resin and non-active fibers disposed adjacent to the optical fibers.

Regarding claims 8-10, the non-active fibers are of the same construction as the optical fibers, the optical fibers are disposed between the non-active fibers.

Regarding claim 11, the protective jacket on both ends of the fiber optic cable has been removed to expose the optical fibers.

Regarding claim 12, the ferrule is terminated to a MT connector.

Regarding claims 13 and 14, the second end of the fiber optic cable is terminated to an optical device, the optical device is a simplex v-groove.

Regarding claim 15, the ribbonized assembly is straight.

Response to Arguments

5. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


7. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Tam T. Le whose telephone number is 571-272-2094. The examiner can normally be reached on 7:30-5:00.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TC Patel can be reached on 571-272-2098. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL.
03/27/05.


T. Le